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ABSTRACT

This speech gives a brief picture of the characteristics and components of a program to change and improve administration in educational organizations. This program affects adinistrative change by providing participants with specific training for their change agent roles and by concentrating on the school system from which the participants come — to develop the support and receptivity for new perspectives that change agents bring to a system. This program differs from similar programs in its multifaceted approach. Not only does the program provide training in technologies of administration and methodologies of organizational change, but also addresses itself to the issues of the institutional environment of the change program. (RA)



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SOME FUNCTIONAL AND STRUCTURAL IMPLICATIONS

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A Training and Development Program for Administrative Change in School Systems

by

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I. INTRODUCTION: THE NEED

Educational organizations are in critical need of major administrative change and improvement. This need becomes evident from considerations of both the operational and functional effectiveness of education systems, and the quality and content of advanced training programs in educational administration. A major upgrading in preparation for top level school staffs would be met, in part, by the introduction of updated and deepened content materials on the processes of administration of large complex systems. Merely to undertake such a program of upgrading alone, however, would not be a sufficient response to current needs.

It is clear that even under the most favorable conditions, the possible rate of change of such educational programs must be relatively slow. Consequently, the rate of impact on the huge educational establishment would tend to be minimal. Perhaps more serious, such an effort fails to address itself to the need for coping, specifically and intensively, with the critical problems of organizational change.

We must recognize that upgraded administrators could not avoid taking on the role of agents of change and face all the problems inherent in such roles. Included would be the inevitable tendency for organizations to suppress the type of disturbances and interruptions resulting from small scale administrative improvement efforts, the extended time horizon for changes to become embedded and take effect, and the requirements for the development of a minimal critical mass of change. The need for, and difficulties of, implementing the institutionalization of major changes and innovations have been widely



documented for non-educational institutions by Morse and Reimer (1956), Sofer (1961), Argyris (1962), McNulty (1962), Churchman and Schainblatt (1965), Leavitt (1965), Bennis (1966), Davis (1967), Radnor, Rubenstein, and Bean (1968), Radnor, Rubenstein, and Tansik (1970), Radnor (1971), Radnor and White (1971), Duncan and Radnor (1971), and Tansik and Radnor (1972), and discussed for educational institutions by Goldhammer and Elam (1962), Miles (1964), Clark and Guba (1965), Culbertson (1965), Carlson et al (1965), Carlson (1965) (1962), Coughlan (1966) (1971), Heck (1967), Watson (1967), Guba (1967), Eidell and Kitchell (1968), Gross, Giacquinta, and Bernstein (1968), Lippitt and Havelock (1968), and Schmuck and Runkel (1970). Dror (1969) provides an example of a theorist who postulates the notion that only changes which are of a sufficient intensity and scope such as to alter the basic operating programs of an institution are likely to become stablished and embedded, giving rise to the minimum, or critical, change mass concept, see Duncan and Radnor (1971).

The assumption of the need for change in educational coministration preparation programs led us to the design of a cooperative program that could draw on the most relevant resources from the fields of Education, Management and the general Behavioral Sciences. In considering the development of joint programs, the authors of this paper were struck by the wide discrepancy between overwhelming societal needs and the inadequacy of the impact that could be obtained from merely increasing educational administration programs, even if these were upgraded in content. Further, by themselves, such new programs, no matter how innovative they would be in content or approach, were



seen as potentially failing to take into account the realities of the change role required of their graduates.

One can little doubt that a small number of highly trained educational administration graduates, widely diffused into the educational establishment, could at best hope to have only partial success in effecting needed improvement. Many graduates would give up their change potential roles and/or completely leave the field in frustration at their lack of impact and acceptance. Perhaps more serious, the very concept of supplying modern administrative practice for educational organizations would be discredited and delayed in the process.

By contrast, the program here described takes account of the requirements for affecting administrative change within educational systems. This is achieved in two ways: 1) By providing program participants with specific training for their change agent roles; and 2) by concentrations he school systems and come, to develop the support and receptivity for the new perspectives that the change agents bring into the system. Thus, by working over a period of time with the systems that are objects of a factorised improvement program, there is greater likelihood for interducing and subtaining organizational change, in addition, we propose that initial efforts be concentrated on a limited number of school districts, thus permitting the achievement of the required critical mass for change and provide, moreover, the needed social support or the administrative change agents. This type of program is one most likely to provide a needed success model that could be the basis for wider



diffusion and adoption, see Rogers and Shoemaker (1971).

II. PROGRAM CHARACTERISTICS AND COMPONENTS

Aims and Purposes

The above rationale provides the basis of the proposed program.

The basic objective is to develop, operate, and test a model program designed to prepare teams of administrative change agents for service in selected school systems. The school systems themselves would also be the object of preparatory and post training support programs.

In summary, the special and possibly unique character of the proposed program, which differentiates it from similar past efforts, e.g. see Luke and Mial (1971), is its multi-faceted approaches. approach is three fold. It aims to provide training in both technologies of administration and in the methodologies and skills of organizational change; and, thirdly, and this is crucial, it directly addresses itself to the issues of the institutional environment of the change program. It does this by preparing administrative change teams who will go to school districts that have themselves been the subject of change preparation programs, and continuing to support the teams during the early stages of their activities.

Program Overview

The basic components of the program built around a University based Center are as follows:

1. Development of training programs at the University



specifically designed to prepare prospective administrators

for school systems. Such programs would draw from three basic
bodies of knowledge:

- Education and the institutional characteristics of educational systems;
- b. Administration and management; and
- c. Social and behavioral sciences with specific and intensive, emphasis on organizational behavior and change processes, communicative techniques and interpersonal relations.
- 2. Recruitment of school systems wishing to participate.

 Cooperating school districts or subdistricts would have to commit themselves to full and extended participation in the proposed programs. In the first pilot state, we suggest that three or four districts be selected. Criteria for selection would include size, sufficient to support a group of highly trained administrative personnel; geographic location, with preference for systems close enough to permit easy and low cost interaction; and if possible, systems demonstrating a range of levels of development in administrative sophistication, to permit considerations of differential impact. A school system could either be a school district or a large semi-autonomous subdistrict. In succeeding years, more districts could be added each year up to some stabilized level, for example, five school district teams.
- 3. Recruitment of students. Students would be organized in groups of three to five individuals who would be targeted to work with, and eventually be employed in one of the participating school



systems. The recruits could come either from the school district concerned or be recruited to them, as feasible. In the pilot stage, with three to four districts, this team size would imply an initial enrollment of some fifteen to twenty trainees. The trainee group of around twenty is seen as being the minimum feasible size of the student body if one is to be able to mount the type of continuing program called for in this conception.

4. The training program would have the following facets:

- a. In-house doctoral level programs at the University;
- b. Project work by the groups in the target school systems;
- c. Joint seminars and workshops with key non-recruited personnel from the target school system to develop their involvement and commitment to the program.
- 5. Preparation of the target school system environment.

Considerable efforts would be expended in preparing the receiving school systems for the incoming trainee group. This would consist of workshops, short courses and joint projects in the generation and implementation of improved administration processes. The program would deal with both specific changes in administrative practice and technology (e.g. budgeting procedures), and in the behavioral issues of introducing and acceptance of such practices. Joint project definition and elaboration, between the trainees and other members of the target school systems would be encouraged. The objective will be to ascertain and, where necessary, improve the



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receptivity to the expected new administrative change programs, to insure that future activities become quickly or even prelegitimated. The users, in effect, would become readied for change by also becoming the change initiators, requiring the help of the incoming group for implementation. Having well accepted members of the target school system as part of all of the membership of the group may be an important facilitating factor for success in any such efforts. Furthermore, such preparation would also have the effect of helping both the student group and the University personnel better focus their initial administrative project efforts in the direction best suited to support the success of the overall change programs.

6. Follow up and support program. Following their entry into the school system after training, program graduates would remain in close contact with the faculty at the University especially during critical early implementation phases. The objectives would be to observe and record the impact and effectiveness of activities, provide feedback for program revision, and facilitate the necessary back up support. An important dimension of the follow up program would be the continual reinforcement of efforts to develop the change research perspective of the general school system personnel, the "knowledge users".

Part of the training provided should be in participant observation techniques. It will be essential to document program experiences in order to develop, provide and evaluate models for dissemination to other potential school system



participants.

7. Evaluation processes

Continual monitoring of the school systems who are going through the administrative change process would be carried occ. This evaluative research will identify the impact of the change interventions on the ongoing system. The results of this research could help identify problem areas in the implementation of improvements so that modifications can be affected. This evaluative component is a unique contribution of this proposed program in two ways: 1) From a practical standpoint, it provides a feedback mechanism for the administrative change agents to indicate how their interventions were affecting the system; 2) from a theoretical standpoint, this evaluation allows the innovation process to be studied over time and so identify the long term durability of large scale change on a social system.

Key Program Elements

There are several key elements to the above program worth explication:

1. Administrative change agents

The term "administrative change agent" refers to persons or groups who use the theory and methods of the social, behavioral, and management sciences to strengthen the functioning and effectiveness of an organization. Change agents provide a crucial link between best thinking and practice and between knowledge and action (see Lippitt and Havelock, 1968, for a similar



perspective). They play this role by converting strategic, technical, structural, and human variables, identified from an interdisciplinary perspective, into instrumentation and programs for individual development and organization improvement. The change agents should focus their efforts on converting both the programs and norms of the school system to support both a climate and feasibility for sustained organizational improvement. This will require competence in changing task, structural, technological and human variables, Lecuitt (1965). In doing so, they would be establishing the concept of a major change, to produce sustained change, as implied by the Radnor (1971) "change squared" notion. Development of specific change agent skills would focus on the techniques of organizational diagnosis, intervention strategy, intergroup problem solving, and reducing resistence to change.

The administrative change agents developed in this program should be problem and action-oriented. They would serve as catalysts to "unfreeze" an organization from the use of inefficient or ineffective policies and practices in terms of the achievement of desired goals and objectives. Working closely with members of the "client system", and as, themselves, members of that system, they would hope to set in motion the forces for constructive innovation by developing sponsorship and support for new programs, structures, functions, or procedures. These would, hopefully, serve to "refreeze" the organization at higher levels of not only efficiency in



functioning and performance, but, as important, in responsiveness to needed change and opportunity.

The change agent concept involves a minimum of three functions or activities. First, there are monitoring activities which consist of defining relevant social indicators of the general "health" of the organization and processing this information on a routine basis, searching for existing or potential problems. Once a problem is detected or anticipated, its nature would be clarified as fully as possible. This would include the identification of the probable source of the problem, evidence that it exists and the way in which it manifests itself or is likely to. The second activity for which change agents should be prepared is strategy/tactic selection. The trainees would be schooled in the various strategies and tactics available for inducing or even preventing change. The benefits and limitations of these strategies and the conditions favoring one or another should also be covered by the program. The final activity, like the others, is an essential one. It consists of the implementation of selected strategies and tactics. This involves developing the means by which strategies become operational and applied appropriately, and periodic assessment of the functioning of selected strategies and tactics.

In addition, these change agents would also be an important potential resource to the organization in promoting other (non-administrative) innovations in the school system by helping to improve both the climate and processes.

^{*} We are indebted to Professor Geræld Zaltman of Northwestern University for suggesting the following ideas.



2. Concentrated task forces

a. Program training groups

Three or four groups of from three to five individuals each could be formed in the first full year of the program. Each task force would work together as a team and be assigned to, or selected by, a designated school district for training, research, and service. This specific of a three to five individual team has been serected as being capable of providing a level of effort and might generate a rough approximation to a possible critical mass of change. Moreover, it is large enough, varying somewhat by school district size, to provide a probable level of necessary social support over the critical, early two or three year period, even allowing for some potential group shrinkage. Upon entry to the school district, while they would each have their separate assigned roles, they would be expected to continue to give each other support. Hence, our reference to them as a "team".

b. Understanding and commitment

A condition of acceptance into the program should be that each team, through commitment of its individual members, pledge its intention to:

i. Work closely as a team on problems of administrative improvement withir a designated school district in conjunction with the University-based course of studies; and



ii. Avail themselves for employment in the designated district as an administrative task force for change upon completion of program requirements.

3. Role specialization in training groups

Each task force would be accosed, as far as possible, of students who approach the process of a ministrative improvement from a different perspective. two call seam might be made up of persons who view change from a disciplines of anthropology-sociology-social psychology, polic scieles, management sciences, economics-finance, and lacation. The individuals might be targeted in a variety of roles in the school systems, line administrator, staff specialist, etc., and even including some who might combine teaching and administrative roles.

Working together from this interdisciplinary and varied role base, the team would be in the position to pool insights, skills, and resources leading to the attainment of a "critical mass" in thinking and action from which leverage could be developed in effecting constructive planned innovation.

4. Student recruitment

The recruitment of students for the program would involve close working relationships with selected school districts.

Two different approaches might be employed in identifying candidates:*

a. Total team nomination

The first option would be that the cooperating school district would nominate three to five persons currently

A sub objective of a follow-up program could be to examine the effect of these different recruitment approaches on consequent effectiveness.



employed in the district for fellowships in the program. These individuals would be given two-to-three years for leaves-of-absence with the understanding that they would return, as a team, to the district upon completion of the program. Special care would have to taken to ensure continued contact, communication and i entification by trainees with their respective school systems during the two-three year leave of absence.

Since the districts would serve as laboratories and field outlets for research and training, each cooperating district would have to release persons who have the trust and confidence of district officials and who would be regarded by them as the nucleus of the administrative personne: team to be employed by the district upon graduation from the program.

b. Partial team nomination

The second alternative would be that the cooperating school district would nominate at least one or two persons currently employed in the district for the program.

These individuals would be given the assurance of reemployment and placed on a leave-of-absence status. The other team members would be selected from outside the district. They would be given the assurance that, upon completion of the program, they would be employed as members of the team in the designated district.

5. Program requirements

The University program might consist of a two-to-three year



course of studies and action-research possibly (though not not necessarily) leading to the Ph.D. degree which could be awarded jointly by, for example, both Schools of Manage ant (or Business) and of Education. Criteria and pricrities in the selection of students would be based on intellectual qualifications for advanced graduate work, career interest in educational administration and change, skill in communication, and general ability to work effectively with people. The proper selection process to meet program criteria will be critical.

6. The Program: content and methods

The focus of the program would be on academic preparation (course work), action-research (field studies), and implementation (instrumentation and programs) leading toward constructive administrative change and improvements in the cooperating school districts.

a. <u>Curriculum</u>

The program would be organized on an interdisciplinary basis, and should provide individually-tailored plans for each team of students. Courses of study should be designed to balance relevant knowledge in education and in the social, behavioral, and management sciences with guided field research and other experiences in the cooperating school districts. Discrete course material would be integrated with field experiences to provide a central focus and explicit rationale for planned administrative



trainees in the concepts, principles, and co ct of evaluative research relative to social experdits.

The curriculum would be designed specifically to improve the agents' knowledge and understanding of:*

- i. The role expectations and role requirements of a knowledge linker who is loyal to both the knowledge resource system and the user system;
- ii. Precisely what the process of knowledge inking is and how the change process works;
- iii. How to more effectively tap the resourc∈ of the knowledge system and gain access to other resource systems;
- iv. How to organize themselves as a group (linking organization) to most effectively bring about improvements.

In addition to course offerings in educational administration, accounting, finance and economics, quantitative analysis and decision technologies, and general organization behavior courses, as are to be generally found in programs in both Management and Education schools, there would be the need for a number of courses directly focused on change processes, such as on intervention theory, social change processes, diffusion of innovation and so on.

^{*} Following and adapted from Lippitt and Havelock (1968), and recognizing the assistance of Mr. Robert Cook of Northwestern University.



b. University-School District Relationship

Applied research experience on key aspects of planned administrative change would be required of all student teams. The length, nature and sequence of the field research could vary according to the stage of development and needs of members in each team. One possible arrangement could be to build in to the program the concept of, for example, one academic quarter on-site at the school district, for each year, and concentrating some of the required course work into the summer quarter --permitting the "team" to be on-site during a normal school term. A faculty advisor, appointed for each team at its formation, would supervise the team's studies and field experiences. Team members could commute between the University and their school district to carry out field assignments.

c. Nature of field projects

Field assignments should be based on the identified problems and needs of the cooperating school districts.

Formats would have to be developed in order to test concepts, principles, instruments, and methods for planned change.

Included might be the following:

i. Techniques for questioning current school district practices and beliefs in order to create an awareness and understanding of the need for administrative improvement and innovation.



- ii. Procedures for assessing and diagnosing organizational and administrative needs in terms of their priorities.
- iii. Ways of developing continuing organizational commitment to programs of planned change.
- iv. Frameworks and instruments for analyzing and taking action on particular identified problems and needs.
- v. Accumulation of critical baseline district data against which improvement and progress can be measured.

7. Building the base of school district support for change

In order to be effective, programs of planned change must have sanction and support at all locations and levels in the school district. To this end, it is essential that commitment to constructive change comes from the top echelons of the organization and be reflected in the policies, procedures, and behavior of district executives who must provide the overall climate and support for innovation within the schools.

a. District seminars

Durable change can be effected only if central office staff members understand and are committed to the need for change, and back specific research projects and programs for implementation. To meet this need, seminars could be conducted both at the University and at the school districts, following on-site investigation by University personnel. The seminars would be designed to inform and involve key



models and tools for effecting improvement, the costs and benefits of various types of new administrative programs, and types of organization climate and conditions that encourage personal growth and group development.

b. Continuing commitment

The purpose of these seminars is to develop and maintain an environment for innovation within each cooperating district, so that work of the change agent teams will be fostered and developed on an ongoing basis throughout the program. Key executives from the districts would be encouraged to reflect on the progress and problems of the teams as they carry out their assignments, make suggestions for program improvement, and, in effect, take over the change initiation role. Through this mechanism program support can be developed and problems of planning and implementation be anticipated and forestalled before they become unmanageable.

8. Continuing school district-university relationships

The program provides for continuing interaction between the cooperating school districts and the University. The selected school districts should be asked to join and work with the University on a minimal initial basis of five years. The purpose in establishing a continuing relationship is to ensure that new patterns and processes of administration are thoroughly established within the district and become a permanent part



of ongoing district planning and operations. Further, it could be anticipated that, given long term continuation of the program, school districts might become involved in second and subsequent phases of relationship with the program, absorbing additional teams as needed and desirable.

a. Continuing seminars and workshops

After students (team members) graduate, they would be invited back to the University for periodic workshops and seminars to exchange information about problems encountered solutions initiated, and successes and failures experienced. They could also, at these seminars, bring themselves up-to-date on new developments in the fields of educational administration and recharge their improvement potential. The seminars would be also attended by trainees currently in the program. The program thus provides for continuing in-service training and development for the participants. This program feature also provides a possible entre for new members of the task force, if attrition through time depletes the team originally employed by the school district.

b. Continuing consultative relationships

An ongoing consulting relationship would be maintained between University faculty and the cooperating school districts. The program represents a strong addition to research, development, and dissemination opportunities for the University faculty. It would also provide a setting



whereby faculty could communicate with school administrators on current school problems, reach their conclusions, and develop improved research, training, and service relationships through mutual learning, criticism, and cooperation with practitioners.

9. Continuing evaluation of results

Program results would be evaluated on the basis of continuous assessment. A systems model must be developed and refined to provide a guide in determining the kinds of information that should be gathered and analyzed in evaluating program effectiveness.

a. Major Program Inputs

The major inputs might include data covering the following:

- i. Students of the proposed training program (their mental ability, aptitudes, education, disciplinary background, prior administrative and other experience, attitudes, work habits, motivation, emotional maturity, ability to work in a team setting, whether recruited from within or outside the school district).
- ii. University faculty (their background, interest, subject matter, pedagogical techniques).
- arrangements, administrative styles, staffing patterns, socio-economic status of communities served, political, economic, and social arrangements).



- v. Program management (team composition and structure, faculty supervision, decision making procedures).

b. Major program outputs

The program outputs derived from both change agent and other personnel reports would probably cover such variables as:

- i. Program participant achievement in courses of study and field experiences (including effective-experiental as well as cognitive learning).
- ii. Comparative success of each team or task force in effecting significant durable administrative improvement within the cooperating districts during and after training.
- iii. Rates of promotion of team members within the district and in other subsequent employment.
- iv. Income and status of students prior to admission and subsequent to graduation from the program.
- v. Employment history of any program leaders.
- vi. Levels of administrative change initiations generated from within the school districts.
- vii. Changes in attitudes towards innovation in the cooperating district.
- viii. Modifications in organizational structures within the districts for generating, facilitating and dealing with change.



III. CONCLUDING REMARKS

It is well understood that the type of program described above will hardly be low cost. Conservatively, the average cost per graduate per year might be expected to run around \$20,000 (including the individual's annual salary). If, however, we look at this expenditure in cost effectiveness terms, as these derive from both the critical need for radical administrative improvement in Education and the inadequacy of present alternatives, then we find the argument that says we cannot afford not to try such an experiment, very persuasive.



REFERENCES

- Abbott, C. and John T. Lowell (eds.). Change Perspective in Educational Administration (Auburn, Ala.: Auburn University, 1965).
- Argyris, C. <u>Interpersonal Competence and Organizational Effectiveness</u> (Homewood, Illinois: R.D. Irwin, 1962).
- Bennis, W. Changing Organizations (New York: McGraw-Hill, 1966).
- Carlson, L. Adoption of Educational Innovations (Eugene, Oregon: University of Oregon Press, 1965)
- Carlson, O. <u>Executive Succession and Organizational Change</u> (Danville, Illinois: Interstate Printers and Publishers, Inc., 1962).
- Carlson, et al, Change Processes in the Public Schools (Eugene, Oregon: Center for the Advanced Study of Educational Administration, University of Oregon, 1965).
- Churchman, C. W. and A. H. Schainblatt. 'The Researcher and the Manager: A Dialectic of Implementation', Management Science XI, pp. 369-378. (February, 1965).
- Clark, D. L. and E. G. Guba. "An Examination of Potential Change Roles in Education" Symposium on Innovation in Planning School Curricula, Airlie House Paper, 1965).
- Coughlan, J. Analyzing Needs in a School System and Programming for Improvement (Chicago: Industrial Relations Center, University of Chicago).
- Coughlan, J. "Staff Attitudes and Morale", and John W. Wick and Donald L. Beggs, Evaluation for Decision Making in Schools (Boston: Houghton-Mifflin Company, 1971), pp. 146-170.
- Culbertson, A. "Organizational Strategies for Planned Change in Education" (paper prepared for the Conference on Strategies for Educational Change, Washington, D.C. November, 1965). ED 010 915
- Davis, S. (1967) "Organic Problem Solving Method of Organizational Change," <u>Journal of Applied Behavioral Science</u>.
- Dror, Y. (1969) "General Systems Approach to Uses of Behavioral Sciences for Better Policymaking", paper presented at the Sesquecentennial Anniversary Symposium of the University of Virginia, Charlottesville, Rand paper P-4091.
- Duncan, R. and M. Radnor, "Strategies for Institutionalizing Change Interventions in Organizations" in Proceedings of XVIIth International Congress of Applied Psychology, Liege, Beigium, 1971.



- Eidell, L. and M. Kitchel. (eds.) Knowledge Production and Utilization in Educational Administration (Eugene, Oregon: University Council for Educational Administration and Center for the Advanced Study of Educational Administration, University of Oregon, 1968).
- Goldhammer and Elam. (eds). <u>Dissemination and Implementation</u>, Third Annual Phi Delta Kappa Symposium on Educational Research (Bloomington, Indiana: Phi Delta Kappa, 1962).
- Gross, Joseph B. Giacquinta, and M. Bernstein. An Attempt to Implement a Major Educational Innovation: A Sociological Inquiry (Cambridge, Massachusetts: Center for Research and Development on Educational Differences, Harvard University, 1968).
- Guba, G. (ed.) The Role of Educational Research in Educational
 Change (Bloomington, Indiana: National Institute for the Study
 of Educational Change, 1967). ED 01_ 505
- Heck, B. An Analysis of Change in Public Education (Columbus, Ohio: Evaluation Center, College of Education, Ohio State University, 1967).
- Leavitt, H. (1965) "Applied Organizationa" Change in Industry:
 Structural, Technological and Humanistic Approaches," in J.
 March (ed.) Handbook of Organization. Chicago: Rand McNally).
- Lippitt, R. and R. Havelock. "Needed Research on Research Utilization" in Research Implications for Educational Diffusion, Michigan Department of Education, 1968.
- Luke, R. A., Jr. and D, Mial. "Am Emergent Interuniversity Consortium for Educational Change" <u>Journal of Applied Behavioral Science</u>. Vol. 7, #2; 1971.
- McNulty, J. E. "Organizational Change in Brewing Enterprises", Administrative Science Quarterly, Vol. 7, pp. 1-21. (1962)
- Miles, B. "Innovation in Education: Some Generalizations", Innovation in Education, Matthew B. Miles, editor (New York: Bureau of Pulications, Teachers College, Columbia University, 1964).
- Morse, N. and E. Reimer. "The Experimental Change of a Major Organizational Variable", <u>Journal of Abnormal and Social Psychology</u>, Vol. 52, pp. 120-129. (1956).
- Radnor, M. "Patterns of Institutionalization of Innovation in Modern Organizations", Working Paper, Graduate School of Management, Northwestern University, (1971)



- Radnor, M. and M. White "Patterns in the Development of OR/MS Groups in Federal Civilian Agencies", Working paper, Northwestern University (1971).
- Radnor, M., A. H. Rubenstein, And Alden S. Bean (June 1968)
 "Integration and Utilization of Management Science Activities in Organizations", Operational Research Quarterly, Vol. 19, No. 2, pp. 117-141.
- Radnor, M., A. H. Rubenstein and David Tansik
 "Implementation in Operations Research and R and D: In
 Government and Business Organizations", Operations Research,
 Vol. 18, No. 6, pp. 967-991. (Nov. Dec. 1970)
- Rogers, E. M. and F. Shoemaker. The Communication of Innovations:

 A Cross-Cultural Perspective (Free Press, 1971)
- Schmuck, Richard A. and Philip J. Runkel. Organizational Training for a School Faculty (Eugene, Oregon: Center for the Advanced Study of Educational Administration, 1970. pp. 191.
- Tansik, David and M. Radnor, "An Organizational Theory Perspective on PPBS Development", Public Administration Peview.
- Sofer, C. The Organization from Within. (London; Tavistock) (1961).
- Watson (ed.) Change in School Systems (Washington, D.C.: Cooperative Project for Educational Development, National Training Laboratories, National Education Association, 1967).

